

CLAIMS

What is claimed is:

1. A system for treating a fluid waste;
an RF plasma wave generator that produces waves; and
a conduit that carries the waste past the waves.
2. The device of claim 1 further comprising a holding tank upstream of the wave generator,
which contains at least some of the waste for at least one hour.
3. The device of claim 2 wherein the holding tank contains an inlet that is fluidly
downstream of a toilet.
4. A municipal waste processing facility that includes a device according to claim 3.
5. A ship that includes a device according to claim 3.
6. The device of claim 1 further comprising a sewer that carries at least some of the fluid
waste to the conduit.
7. The device of claim 1 wherein the conduit carries the waste in at least two substantially
separate streams past the waves, and then recombines the separate streams.
8. The device of claim 1 further comprising a filter fluidly positioned upstream of the RF
plasma wave generator.
9. The device of claim 1 further comprising a second conduit that carries a portion of the
waste in a pathway that bypasses the waves from the RF plasma wave generator.
10. The device of claim 1 wherein the RF plasma wave generator has a basic frequency of
0.44 MHz – 40.56 MHz.
11. The device of claim 1 wherein the RF plasma wave generator has a modulation frequency
of 10-35 kHz.
10. A method of reducing biological contamination in a waste, comprising:

- providing an RF plasma wave generator; and
carrying the waste past waves produced by the RF plasma wave generator under conditions in which a substantial percentage of the population of a microbe in the waste is inactivated or killed, to produce a treated waste.
11. The method of claim 10 in which the substantial percentage is at least 50%.
 12. The method of claim 10 in which the substantial percentage is at least 90%.
 13. The method of claim 10, further comprising discharging the treated waste into a navigable body of water.
 14. The method of claim 10, further comprising discharging the treated waste into a sewer.
 15. The method of claim 10, further comprising discharging the treated waste into a conduit in a municipal waste treatment plant.
 16. The method of claim 10, wherein the step of providing an RF plasma wave generator comprises operating the generator at a basic frequency of 0.44 MHz – 40.56 MHz.
 17. The method of claim 10, wherein the step of providing an RF plasma wave generator comprises operating the generator at a modulation frequency of 10-35 kHz.